

CAMPBELL

RESIDENCE CASEMENTS

ENGINEERING DATA

OLE K. OLSEN, INC.
823 PERDIDO ST.
NEW ORLEANS, LA.

CAMPBELL METAL WINDOW CORP.

DIVISION OF AMERICAN RADIATOR & STANDARD SANITARY CORPORATION

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High Quality Windows at Low, Commodity Prices

All Casements are NOT Alike

Ever since their introduction, Residence Casements have been undergoing standardization and price reduction. The price has come down steadily until they now represent about the lowest cost metal windows for residential use.

But there are two ways to get a lower price—one by cheapening quality, the other by combining expert manufacturing methods, modern equipment and sufficient volume to produce a quality product. Campbell has followed the latter course and the Campbell Residence Casement today represents a truly economical, high quality window.

Much of its extra value is hidden. It is a part of the design and construction of the window itself. In Campbell Residence Casements, therefore, there are many points of superiority which merit careful consideration. They are all indicated on the pages which follow.

Some of them will be found in any Casement. But all of them are found only in Campbell Residence Casements. And since each plays a vital part in the strength, long life, weathertightness and easy operation of the windows, it is obvious economy to use the casement which has them all.



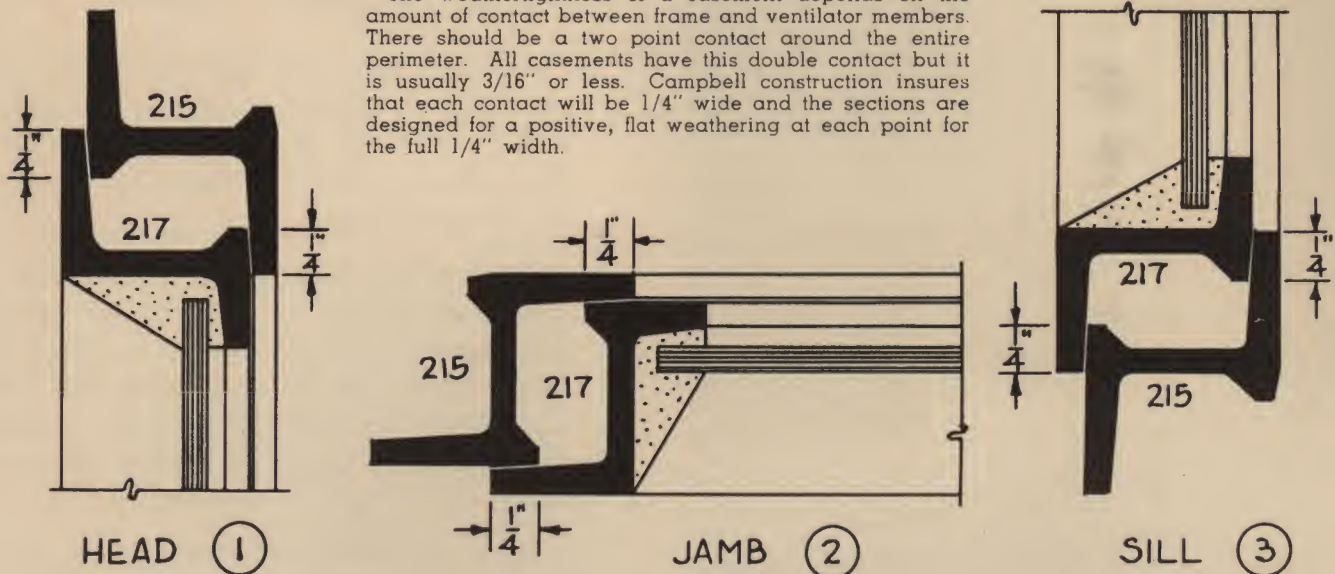
INDEX

	Page No.		Page No.
Basement Windows.....	23	Stone	15
Construction Features	4, 5 & 8	Stucco & Frame	14
Corner Mullion	8	Wood Surrounds	14
Door	13 & 22	Moderne Type"	13
Fire Escape Units	12	Mullions	5
Full Size Sections	4, 5 & 8	Opening Areas	17
Glass Areas	17	Rustproofing	9
Hardware	6 & 7	Screens	9, 18, 19 & 20
Housing Type	21	Specifications	16
Installation Details	14 & 15	Storm Sash	9
Brick Veneer	15	Tilt-In Type Casements	8 & 13
Brick Veneer (with fins)	15	Transom Type Casements	13
Frame	14	Types & Sizes	10 to 13
Housing Type with Casing	21	Utility Windows	23
Solid Masonry	15	Ventilation Areas	17

Superior Features of Design and Construction

1. FULL 1/4" DOUBLE WEATHERING CONTACT AROUND ALL VENTILATORS

The weathertightness of a casement depends on the amount of contact between frame and ventilator members. There should be a two point contact around the entire perimeter. All casements have this double contact but it is usually 3/16" or less. Campbell construction insures that each contact will be 1/4" wide and the sections are designed for a positive, flat weathering at each point for the full 1/4" width.



2. ROLLED SECTIONS— EACH DESIGNED FOR ITS JOB

Since rolls are expensive, it would be an obvious economy to "build up" sections or devise double duty members for various conditions. But to do this invites leakage and corrosion, reduces the strength of the window and cuts down the daylight area. Campbell has not compromised with quality in this manner to get a low cost. Where a special section has been needed for correct design it has been included. Even Tilt-In ventilators, in which the weathering is the exact opposite of the side hinged ventilators, CAN be made with assemblies of standard sections. The special sections used in this type of window (see Page 8) are further evidence of Campbell's thoroughness of design to insure a high quality window.

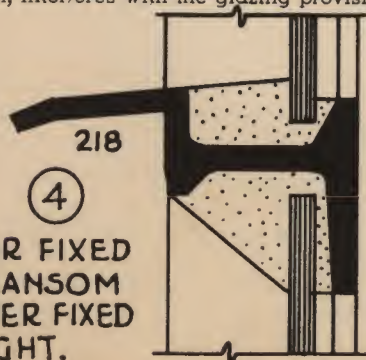
3. ROLLED TRANSM SECTION, WITH INTEGRAL DRIP MEMBER

Where a fixed transom is used, the drip member can be applied. This is cheaper, but it adds a joint where moisture can collect and cause corrosion, interferes with the glazing provisions and obviously is weaker than the integrally rolled drip bar which is part of Campbell Section No. 218.

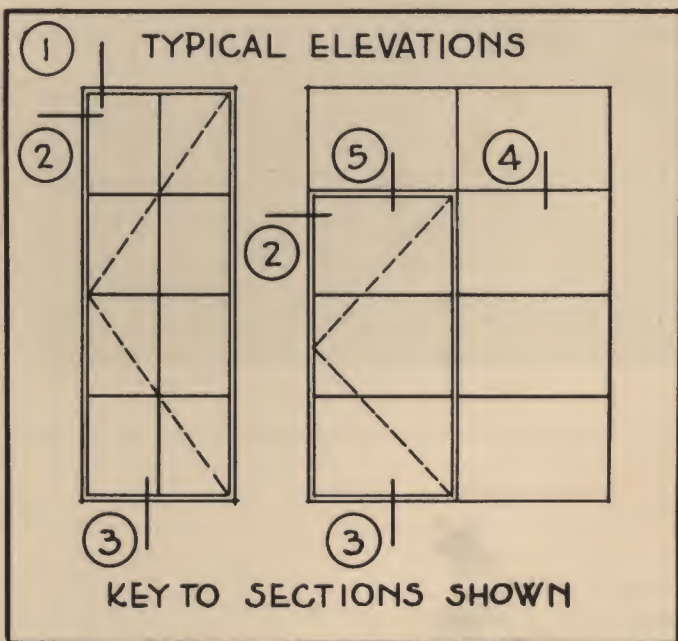
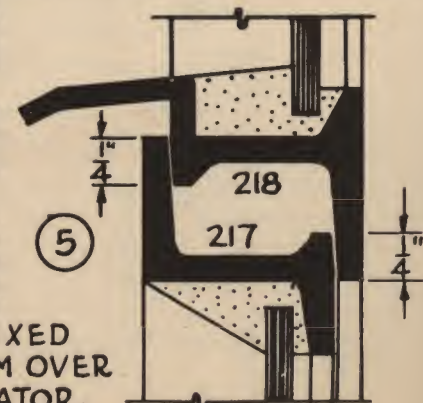
In Casements with fixed transoms, where both the lights above and below the transom bar are fixed, (detail No. 4) the drip bar carries out the sight line and the section makes it easy to glaze both lights.

In a Casement with a fixed transom over a ventilator (detail No. 5) the drip member is an integral part of a section which assures the full 1/4" double weathering contact at the top of the vent and makes it easy to glaze the lights in the transom.

FOR FIXED
TRANSM
OVER FIXED
LIGHT.



FOR FIXED
TRANSM OVER
VENTILATOR.



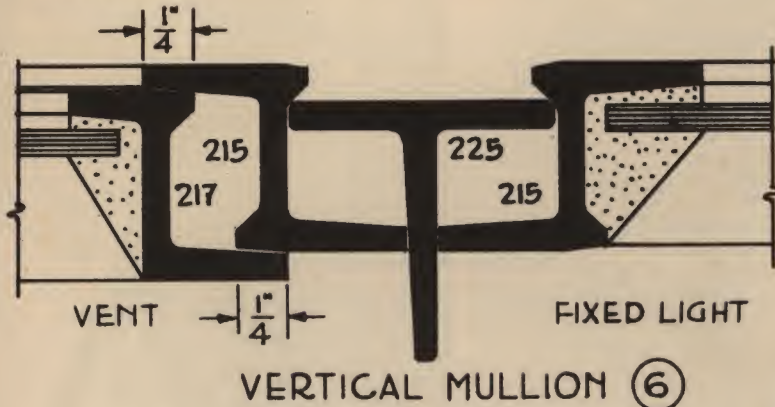
Superior Features of Design and Construction

4. ROLLED STEEL MULLIONS

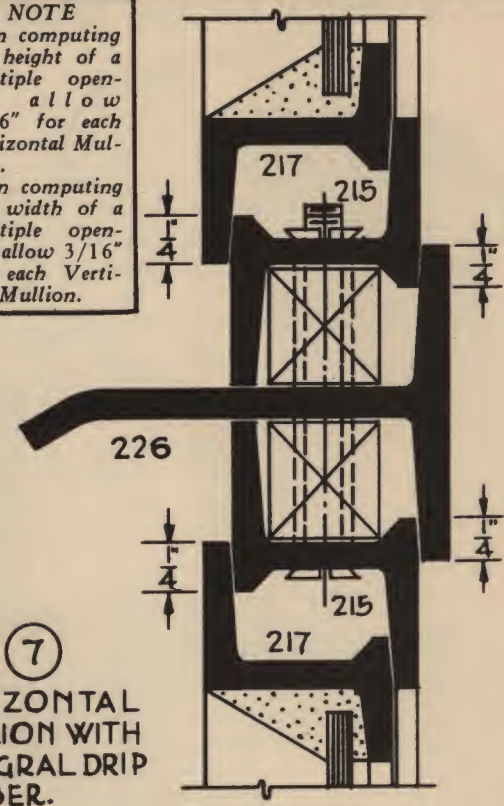
Here again, Campbell design avoids sheet metal mullions or shallow sections for joining two or more Casements in one opening.

The **Vertical Mullion** (Sec. 225) is a specially rolled T-Bar in which the edges of the table are rolled to fit the frame sections of the units on either side. This contact, when filled with mastic, assures weathertightness and a similar condition exists where the outside legs of the frame section contact the stem.

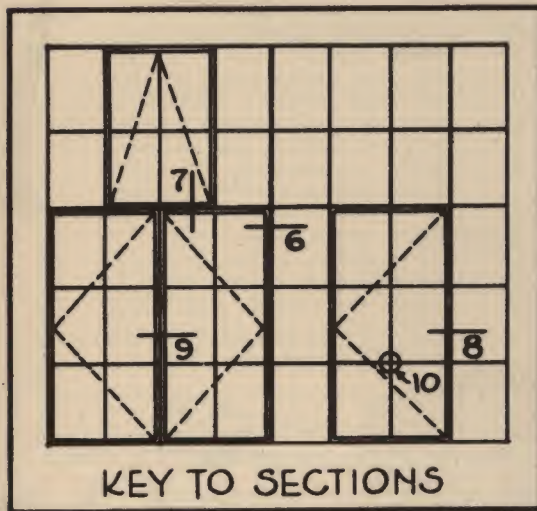
The **Horizontal Mullion** (Sec. 226) is similarly designed except that it firmly contacts the inside face of the frame sections above and below it. The stem is sloped to provide an integral drip member which protects the ventilators in the lower casements.



NOTE
In computing the height of a multiple opening, allow 3/16" for each Horizontal Mullion.
In computing the width of a multiple opening, allow 3/16" for each Vertical Mullion.

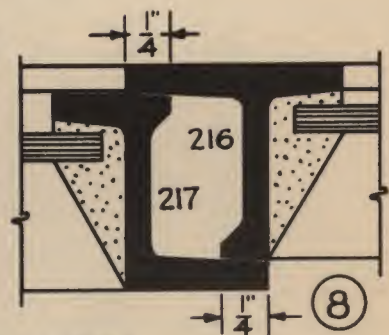


HORIZONTAL MULLION WITH INTEGRAL DRIP MEMBER.

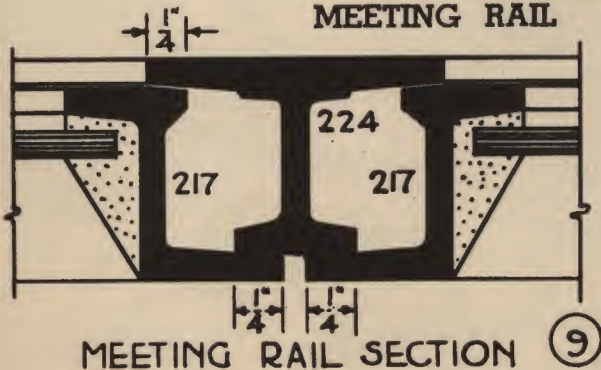


5. SPECIALLY ROLLED STILE

The **Stile** is used between a ventilator and an adjacent fixed light in a casement unit. The usual procedure is to meet this condition with a combination of "double duty" members sometimes 2 inches or more wide. The Campbell stile member (No. 216) is designed and rolled for extra strength without extra width and its use materially increases the daylight area in a Campbell Casement.

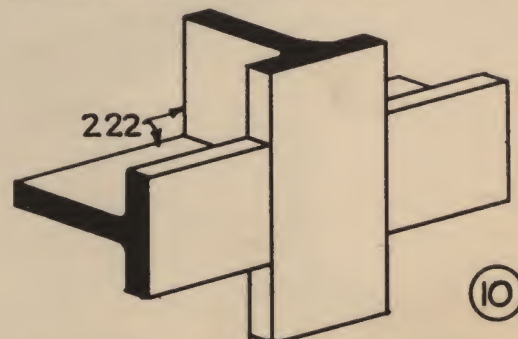


6. SPECIALLY ROLLED MEETING RAIL



The **Meeting Rail** section (No. 224) between two adjacent vents is an integrally rolled member on which the surfaces are designed to maintain the full 1/4" double weathering contact throughout its entire length. It combines maximum strength with maximum daylight area.

7. FLUSH MUNTIN JOINTS

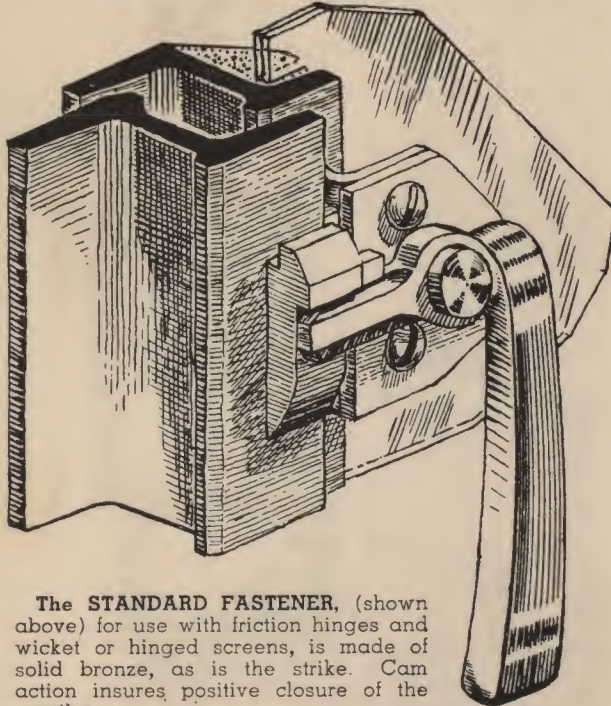


Since glazing is from the exterior, the muntin joints are important to the interior appearance of the casements. The Campbell joint is flush—no humping of one section over another.

Aside from the improved appearance, this construction assures a flat glazing ledge which makes it easier to glaze Campbell Casements and assures a uniform putty ledge.

CUSTOM QUALITY HARDWARE

8. SOLID BRONZE FASTENERS

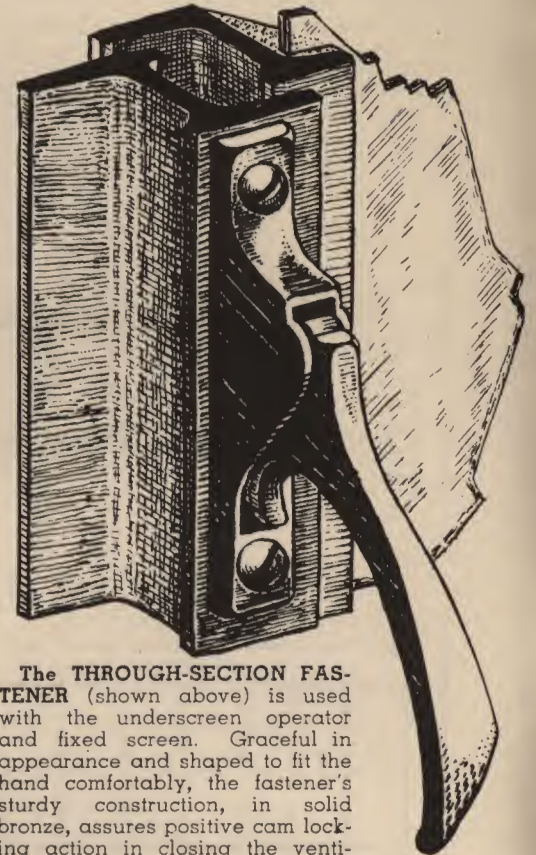


The **STANDARD FASTENER**, (shown above) for use with friction hinges and wicket or hinged screens, is made of solid bronze, as is the strike. Cam action insures positive closure of the ventilator.

Note. At a slight increase in price, a **TWO POINT NOTCHED LOCKING FASTENER** may be substituted for the standard fastener. This fastener provides for ventilation in inclement weather since it locks the vent in a slightly open position.

All Campbell Fasteners are made of solid bronze — another evidence of superior quality. Usually, fasteners are made of cast iron or steel, and bronze is furnished only at a substantially higher price.

Standard type bronze hardware has an attractive neutral finish. If specified it may be furnished in a polished finish at a slight extra cost.



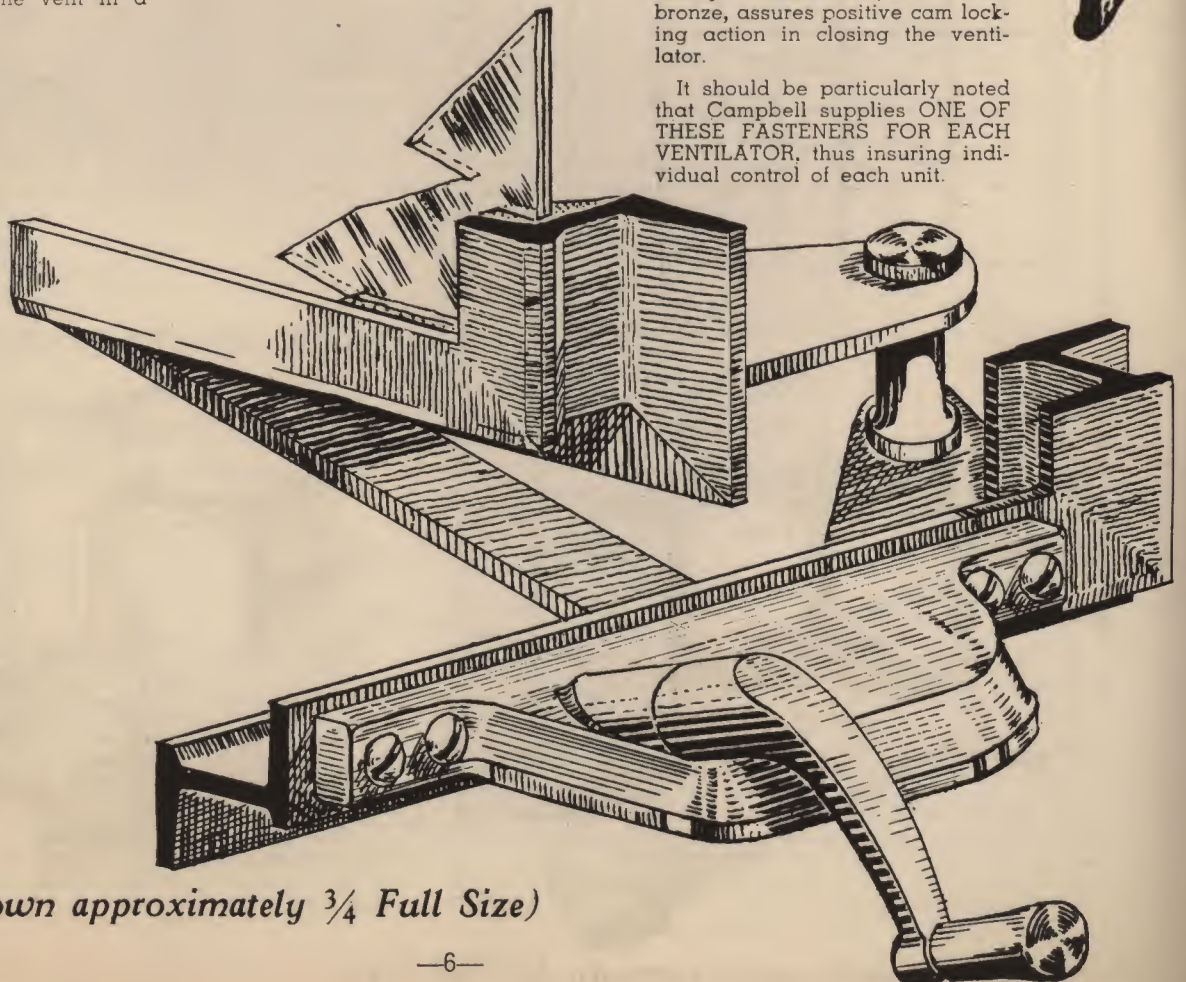
The **THROUGH-SECTION FASTENER** (shown above) is used with the underscreen operator and fixed screen. Graceful in appearance and shaped to fit the hand comfortably, the fastener's sturdy construction, in solid bronze, assures positive cam locking action in closing the ventilator.

It should be particularly noted that Campbell supplies **ONE OF THESE FASTENERS FOR EACH VENTILATOR**, thus insuring individual control of each unit.

9. Underscreen Operator of Custom Quality

The operator is positive in action and sturdily built for long, trouble free service. Casements so operated, and equipped with fixed screens, have many advantages. Screens are always in place, ventilators may be opened with an easy turn of the handle—and stay in the desired position.

The Campbell operator is a superior piece of hardware. Oversize gears assure greater strength, more positive action and longer service.

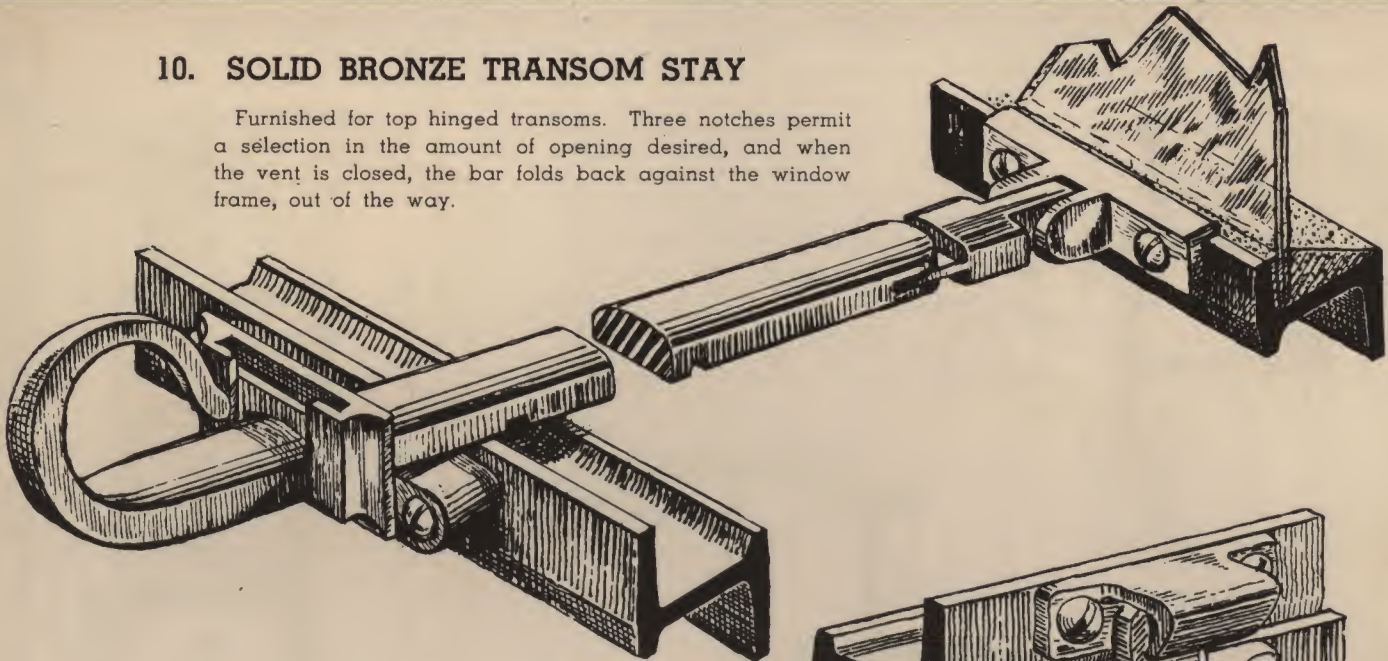


(Hardware is shown approximately $\frac{3}{4}$ Full Size)

CAMPBELL RESIDENCE CASEMENTS
CUSTOM QUALITY HARDWARE

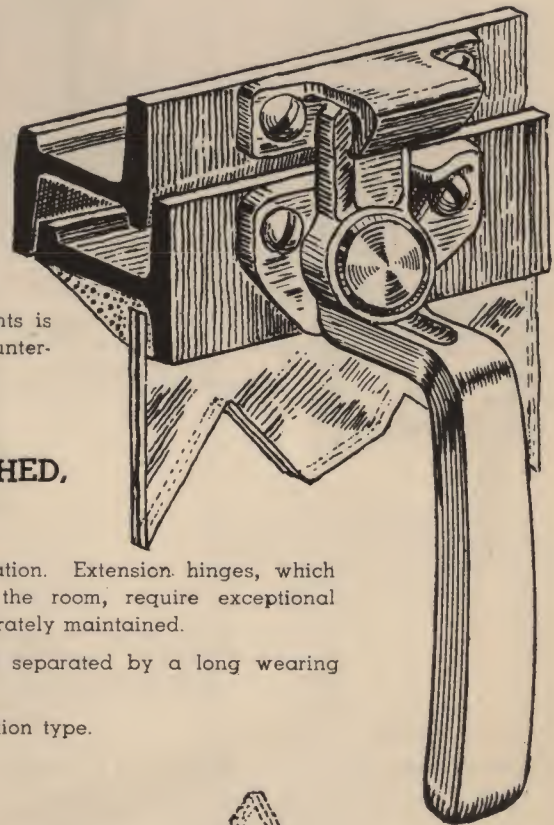
10. SOLID BRONZE TRANSOM STAY

Furnished for top hinged transoms. Three notches permit a selection in the amount of opening desired, and when the vent is closed, the bar folds back against the window frame, out of the way.



**11. SPECIALLY DESIGNED FASTENER
FOR HOPPER VENTS**

Like the other Campbell fasteners, the one used on Hopper Vents is solid bronze. The design is the exact, though slightly smaller, counterpart of the one used on Custom Casements.

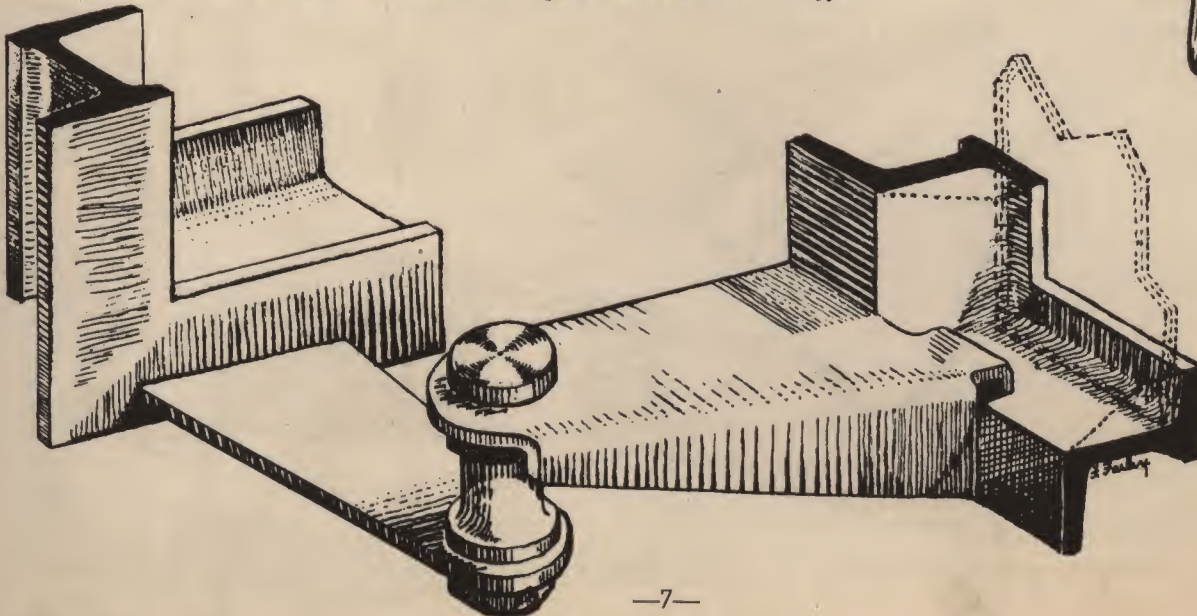


**12. STURDY HINGES, BRONZE BUSHED,
EXTENSION TYPE**

Mechanically, the hinge is an all important factor in ventilator operation. Extension hinges, which are necessary if the exterior of the glass is to be cleaned from inside the room, require exceptional sturdiness of design and construction if ventilator alignment is to be accurately maintained.

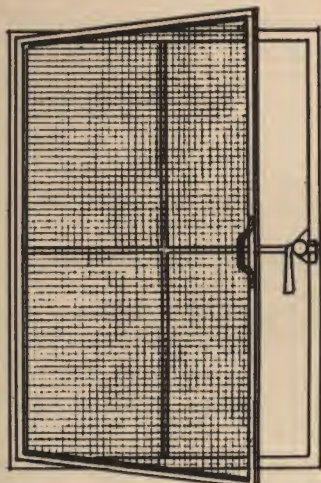
Campbell hinges are reinforced for extra strength. The leaves are separated by a long wearing bronze bushing so that every bit of the surface may be painted.

A simple adjustment of the pivot makes this hinge either free or friction type.

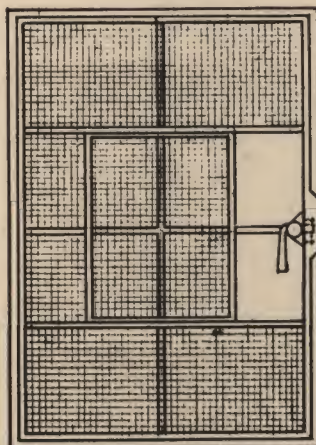


Superior Features of Design and Construction

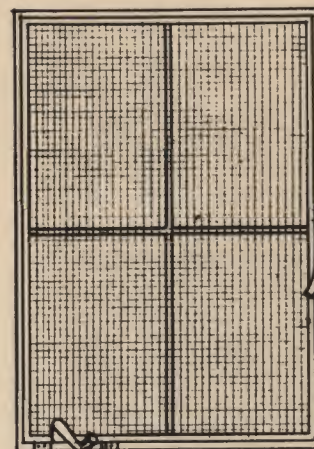
15. THREE TYPES OF SCREENS ARE AVAILABLE



HINGED TYPE



WICKET OR SLIDING PANEL TYPE



FIXED TYPE

Fixed and hinged Screens are designed by Campbell to provide one screen unit for each ventilator. This procedure, while more expensive to make in some cases, assures a tighter fit, easier installation or removal, and complete closure. Grommets or other devices for enclosing hardware are eliminated, making it easy and inexpensive to re-wire the screens.

Sturdy welded steel frames hold the wire in place by means of removable splines. Clips provide tight fitting application to each vent.

Three types are available:

1. **Hinged Type Screens** are used with casements having flat type fasteners and friction hinges and are easily opened to oper-

ate the vent. They will be furnished instead of Wicket Type Screens if specified on the order and, in some cases, at slightly higher cost.

2. **Wicket (or Sliding Panel) Type Screens** are used with casements having flat type fasteners and friction hinges, unless Hinged Type Screens are specified. They are fitted to the frames of the casements and a sliding wicket gives access to the ventilator hardware.

3. **Fixed Type Screens** are used with Underscreen Operated Ventilators.

All screens are fitted with 16 mesh bronze wire cloth. At a slight additional cost 18 mesh wire cloth may be substituted.

16. COMPLETE LINE OF STORM SASH IS AVAILABLE

Storm sash, completely glazed and built to fit Campbell Casements are available for all standard types and sizes.

They are fitted to the interior of the windows and are made in both Fixed and Hopper Vent types. Either type provides excellent insulation by means of a dead air space between the casement and the storm sash. The Hopper Vent type provides ventilation as indicated in the photograph at the right. Both types are easy to attach and remove.

They are described and illustrated in a separate booklet which will be mailed on request. Ask for Form No. 307.



17. COMPLETE RUSTPROOFING

Among the many features of Campbell Residence Casements one of the most important is rustproofing. It is false economy to buy a metal window which has not been given a proper finish. Campbell's new finishing plant not only assures that the casements will be finished right but gives the customer his choice of as much or as little rustproofing as he considers necessary.

Campbell does not "sell" any particular method of rustproofing because all types are available at the customers' option and at a moderate cost.

This subject is discussed in a separate booklet entitled "The Rustproofing of Steel Windows" which will be mailed on request. Ask for Form No. 305.

In this booklet all the various processes, including Galvanizing, Bonderizing, Parkerizing and the ideal process for long life and low maintenance cost—BONDERIZING ON GALVANIZING—are fully explained. Their advantages and limitations are outlined by quotations from acknowledged authorities. Any of these processes may be used on Campbell Casements as a preliminary to the dip application of a rust-inhibitive prime coat, baked on for one-half hour at 300 degrees Fahrenheit.

By this means, the type of protection best suited to the needs of each job may be selected, without any attempt to sell any one process.

Units 1, 2, 3, 4 Lights Wide

[illegible]

SYMBOLS

*Indicates units carried in Warehouse Stock in types shown, and also with vertical muntins omitted.

• Indicates units carried in Warehouse Stock with underscreen hardware only.

Units NOT MARKED require shipment from
Factory.

NOTES

All types and sizes shown (except one light high and circle head types) may be furnished without vertical muntins.

Wood surrounds are available for all standard units and are shipped attached to the windows.

Three light wide casements (3212 VC, R/L; 3312VC, R/L; 3313VC, R/L; 3413VC, R/L; 3414VC, R/L, 3514VC, R/L, and 3614VC, R/L) are made in underscreen operated type only.

"T" Units (14T, 15T, 16T, etc.) are fixed units with transom bar No. 218 indicated by the double line. These units are designed for use beside ventilated units with fixed transoms and carry the transom line across the opening.

When units with two vents have the suffix VC added to the symbol it indicates that the ventilators are in the center of the unit. The same units without this suffix have the ventilators hinged at the jamb.

Thus a 6528VC has two vents at the center and one vertical row of fixed side lights at either jamb. A 6528 has the vents hinged at the jamb with a double row of fixed lights at the center.

Types and Sizes, 6 and 8 Lights Wide

SYMBOLS

*Indicates units carried in Warehouse Stock in types shown, and also with vertical muntins omitted.

•Indicates units carried in Warehouse Stock with underscreen hardware only.

Units NOT MARKED require shipment from Factory

NOTES

Handing of vents (R/L) must be specified at the time windows are ordered.

Standard Units are regularly furnished with flat type bronze fasteners and friction hinges. Preparation is made for either hinged or wicket type screens.

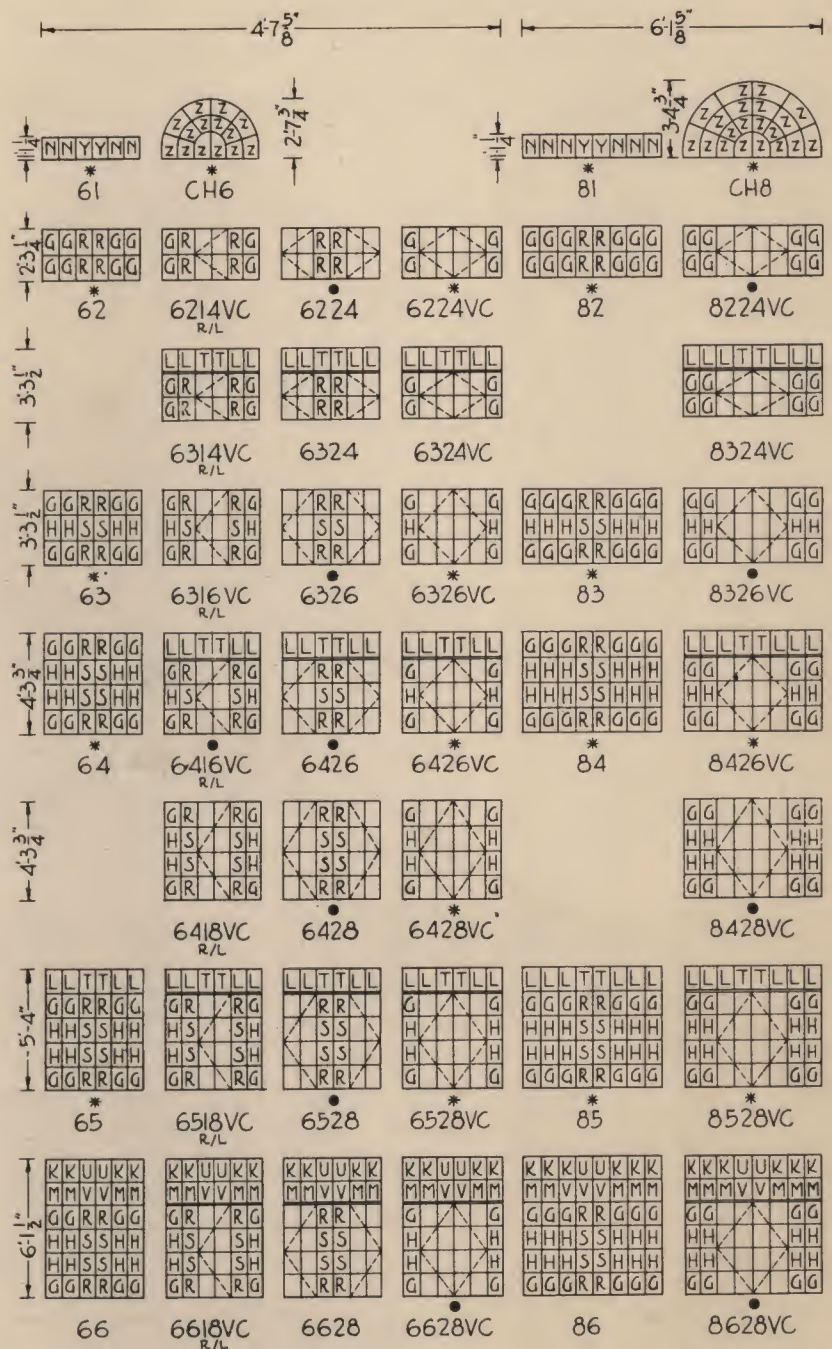
Units with underscreen operator are regularly supplied with non-friction hinges and underscreen operators and through section bronze fasteners for tight closure of vents.

Separate head drips are furnished without charge for all units in which the ventilators extend to the head.

All windows are prepared with open holes to receive SHADE BRACKETS.

Necessary GLAZING CLIPS (not less than 2 per light) are furnished with all windows.

One pound of MASTIC CEMENT is furnished for each 10 ft. of window perimeter with all casements.



GLASS SIZES	
G 8 11/16 X 12 5/8	S 8 13/16 X 12
H 8 11/16 X 12	T 8 13/16 X 11 7/8
K 8 11/16 X 10 7/16	U 8 13/16 X 10 7/16
L 8 11/16 X 11 7/8	V 8 13/16 X 10 11/16
M 8 11/16 X 10 11/16	Y 8 13/16 X 11 3/8
N 8 11/16 X 11 3/8	Z TO TEMPLATE
R 8 13/16 X 12 5/8	LIGHTS NOT MARKED: 8\"X12"

* INDICATES WAREHOUSE STOCK UNITS.

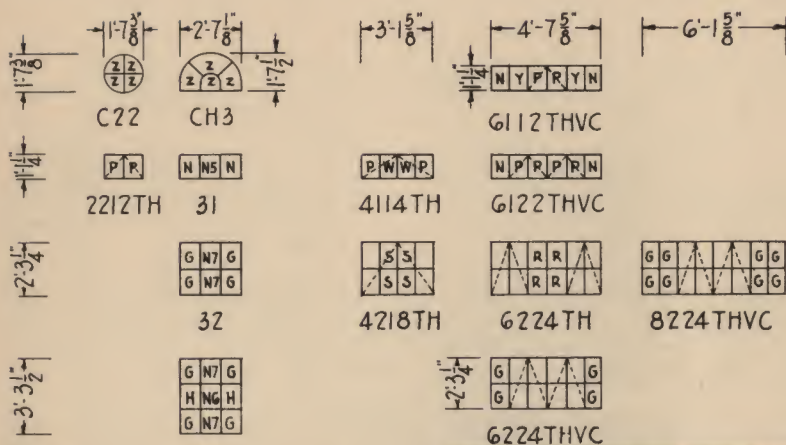
• INDICATES WAREHOUSE STOCK UNITS WITH UNDER-SCREEN HARDWARE ONLY.

ALL UNITS NOT MARKED REQUIRE FACTORY SHIPMENT. SIZES GIVEN ARE WINDOW DIMENSIONS. ADD 1/4\" TO BOTH WIDTH AND HEIGHT TO OBTAIN OPENING SIZE.

< INDICATES VENTS HINGED AT SIDE TO SWING OUT. UNITS ARE VIEWED FROM EXTERIOR.

LISTED SPECIAL TYPES AND SIZES

(Including Fire Escape Units)



- NOTE -
UNITS ARE VIEWED
FROM EXTERIOR

* FIRE ESCAPE UNITS *		
GLASS SIZES		
K 8 1/16" x 10 7/8"	L 8 1/16" x 10 7/8"	M 8 1/16" x 10 7/8"
N 8 1/16" x 11 7/8"	U 8 1/16" x 10 7/8"	V 8 1/16" x 10 7/8"
F1 8 1/4" x 2 1/4"	F2 8 1/4" x 10 7/8"	F3 8 1/4" x 10 7/8"
F4 7 1/8" x 11 3/4"	F5 7 1/8" x 12"	F6 7 1/8" x 12"
F7 8 1/16" x 11 3/4"	F8 8 1/16" x 12 1/8"	F9 8 1/16" x 10 7/8"
LIGHTS NOT MARKED 6" x 12"		

ALL UNITS SHOWN REQUIRE FACTORY SHIPMENT

LISTED SPECIAL TYPES

The types shown on this page are not carried in stock as assembled units but can be quickly assembled from stock bars.

They include units with operative transoms both as separate units and as part of a unit including one or more side hinged ventilators.

It should be noted that many of these combination types may be worked out by using stock side hinged units and stock transom units with a horizontal mullion in an opening. Thus, the same ventilation as offered by a 4618VCT4 may be obtained by using a 4418VC and a 4212THVC and a four light wide horizontal mullion. The opening will not be the same size in both cases. In the latter instance the opening for the combined units will be 5 11/16" higher than for the single, listed special unit.

FIRE ESCAPE UNITS

These units differ from other similar types of casements in that they have no meeting rail at the center. This leaves a clear opening for the width of both ventilators. This construction is known as "folder" type and the ventilators are so arranged as to weather against each other at the center.

Fire Escape Units are furnished either with vents opening in or out and the direction of opening must be specified at the time they are ordered. The suffix OO in the type designation signifies Open Out and OI signifies Open In. Fire Escape Units are not screened.

Hardware includes a solid bronze locking handle for the active leaf and Top and Bottom Bolts for the inactive leaf.

Note special glass sizes which are tabulated separately for Fire Escape Units.

GLASS SIZES									
B 11 1/4" x 12 3/8"	N 8 1/16" x 11 3/8"	W 8 1/16" x 10 3/8"	N1 11 1/16" x 10 7/8"	E 11 1/4" x 11 7/8"	P 8" x 10 3/8"	X 8 1/16" x 9 3/4"	N2 11 1/16" x 10 7/8"	G 8 1/16" x 12 3/8"	Q 8" x 9 3/4"
H 8 1/16" x 12"	R 8 1/16" x 12 3/8"	Z TO TEMPLATE	N6 11 1/16" x 12 3/8"	K 8 1/16" x 10 7/8"	S 8 1/16" x 12"	AA 8 1/16" x 12 3/4"	N7 11 1/16" x 12 3/8"	L 8 1/16" x 11 7/8"	T 8 1/16" x 11 7/8"
M 8 1/16" x 10 7/8"	U 8 1/16" x 10 7/8"	NN 11 1/16" x 11 7/8"	MARKED 8" x 12"	G 8 1/16" x 10 7/8"	H 8 1/16" x 10 7/8"	BB 8 1/16" x 10 7/8"	LIGHTS NOT MARKED 6" x 12"		

- NOTE -
FE00 - INDICATES VENTS HINGED AT SIDE TO SWING OUT.
FE01 - INDICATES VENTS HINGED AT SIDE TO SWING IN.
FIRE ESCAPE WINDOWS CANNOT BE SCREENED; THEREFORE SCREEN TYPE HARDWARE IS NOT AVAILABLE.
FIRE ESCAPE UNITS ARE "FOLDER TYPE" CASEMENTS WITHOUT MEETING RAIL BETWEEN ADJACENT VENTS.
ALL UNITS REQUIRE FACTORY SHIPMENT.
GENERAL NOTES FOR LISTED SPECIAL TYPES APPLY TO FIRE ESCAPE UNITS.

ALL UNITS REQUIRE FACTORY SHIPMENT
LISTED SPECIAL UNITS MAY BE SPECIFIED WITH VERTICAL MUNTINS OMITTED, IF DESIRED, AND MAY BE PREPARED FOR HINGED OR WICKET TYPE SCREENS OR FOR FIXED SCREENS AND UNDERSCREEN HARDWARE.
SIZES GIVEN ARE WINDOW DIMENSIONS. ADD 1/4" TO BOTH WIDTH AND HEIGHT TO OBTAIN OPENING SIZE.
- INDICATES VENTS HINGED AT SIDE TO SWING OUT.
^ INDICATES VENTS HINGED AT TOP TO SWING OUT.
HANDING OF 1/4" VENTS IS DETERMINED BY LOCATION OF HINGES WHEN VIEWED FROM THE EXTERIOR.

TYPES & SIZES—"MODERNE" CASEMENTS—TILT-IN CASEMENTS TRANSOM TYPE CASEMENTS—CASEMENT DOOR—SIDELIGHTS—TRANSOMS

SYMBOLS

* Indicates Units carried in Warehouse Stock in types shown. Units NOT MARKED require shipment from Factory.

NOTES

"Moderne" Type Casements have horizontal muntins only. They are equipped with standard fasteners and friction hinges and are designed to receive hinged or wicket screens. Unless Hinged Screens are specified at the time the order is placed, Wicket Screens will be shipped.

"Moderne" Casements are slightly lower in price than the regular VMO types because they have been developed in the selected sizes for use in group housing requirements where the architecture follows the "Moderne" trend.

Tilt-In Type Casements are designed to be used under side hinged casement units to give the ventilation feature of a hopper vent at the sill. The combination of a Tilt-In Unit and a side hinged unit will result in a ventilator arrangement similar to the Casement Combination Type of Custom Casement.

The connection between the head of the Tilt-In Casement and the sill of the Side Hinged Casement requires no mullion and will be made at the factory, when specified. They are joined directly and held in alignment by clips between the two sections. (See detail section on Page 8)

Tilt-In Casements are prepared for the attachment of exterior screens only.

Transom Type Casements are separate units with top-hinged ventilators and are designed for use over side hinged casements in a multiple opening. A horizontal mullion is necessary in joining the sill of the Transom Type to the head of the side hinged casement.

Transom Type Casements are furnished with Bronze Push Bar hardware and may be prepared to receive fixed screens.

Wood surrounds are available for Transom Type Casements and are shipped attached to the window.

Casement Door is made in one standard size and type only, as shown. All other sizes and types are special and are much higher in price.

Casement door hardware includes half surface butt hinges, mortise lock (but no cylinder), top and bottom bolts. Lock cylinders are furnished but at additional cost.

Screen Doors generally require special treatment of the casement doors and must be developed for each job.

Bronze Threshold for the standard door is available as an extra.

Sidelights require vertical mullions for attachment to door.

Transoms require horizontal mullions for attachment to door. Transom Units are not available for use over a door with 2-27D sidelights.

"MODERNE" TYPE CASEMENTS WITH HORIZONTAL MUNTINS ONLY

UNITS ARE VIEWED FROM EXTERIOR.

1'-7 3/8"	1'-3 1/8"	1'-3 1/8"	4'-7 5/8"	4'-7 5/8"
HM2214R/L	HM4214R/L	HM4224	HM6224	HM6214VCR/L
HM2314R/L	HM4314R/L	HM4324	HM6324	HM6314VCR/L
HM2416R/L	HM4416R/L	HM4426	HM6426	HM6416VCR/L
HM2518R/L	HM4518R/L	HM4528	HM6528	HM6518VCR/L

GLASS SIZES

M1	17 15/16 X 12 5/8
M2	17 15/16 X 12"
M3	17 11/16 X 11 7/8
M4	17 5/16 X 11 7/8
M5	17 13/16 X 11 7/8
M6	17 13/16 X 12 5/8
M7	17 13/16 X 12"
M8	17 1/2 X 11 7/8

LIGHTS NOT MARKED: 16 3/8 X 12"

NOTE: SIZES GIVEN ARE WINDOW DIMENSIONS. ADD 1/4" TO BOTH WIDTH AND HEIGHT TO OBTAIN OPENING SIZE. HANDING OF R/L VENTS IS DETERMINED BY LOCATION OF HINGES WHEN VIEWED FROM EXTERIOR.

"TILT IN" TYPE CASEMENTS

1'-7 3/8"	1'-3 1/8"	1'-3 1/8"	4'-7 5/8"	6'-1 5/8"
21S2	41S2	41S4	61S4	81S4

TRANSOM TYPE CASEMENTS

1'-7 3/8"	1'-3 1/8"	1'-3 1/8"	4'-7 5/8"
2214TH	4214THVC	4224TH	6214THVC

GLASS SIZES

G	8 1/16" X 12 5/8"
M	8 1/16" X 10 11/16"
O	7 3/4" X 9 3/4"
Q	8" X 9 3/4"
R	8 3/16" X 12 5/8"
V	8 3/16" X 10 11/16"
X	8 3/16" X 9 3/4"

LIGHTS NOT MARKED: 8" X 12"

CASEMENT DOOR, SIDELIGHTS, TRANSOMS

3'-9 1/4"	1'-1 1/8"	1'-7 3/8"	3'-9 1/4"	5'-11 7/8"
41DTRANSOM	61DTRANSOM	41DTRANSOM	61DTRANSOM	61DTRANSOM
41DTRANSOM	61DTRANSOM	41DTRANSOM	61DTRANSOM	61DTRANSOM

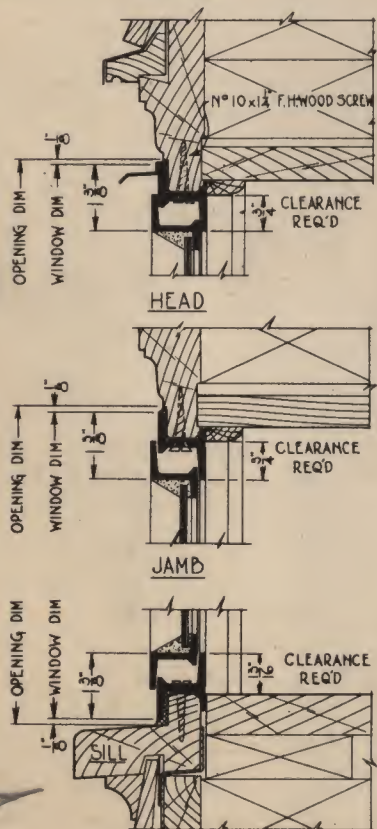
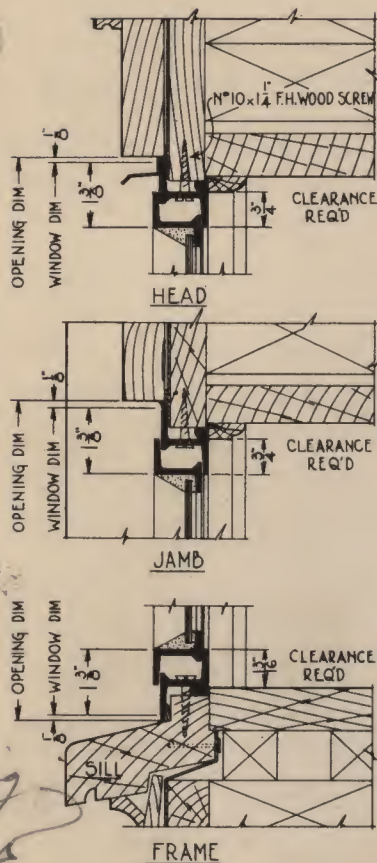
GLASS SIZES

D1	11 1/4" X 11 7/8"
D2	11 1/4" X 11"
D3	10 13/16 X 11 3/8"
D4	10 7/16 X 11 3/8"
D5	12 3/16 X 11 3/8"
D6	11 5/8" X 11 3/8"
D7	TO TEMPLATE
D8	8 11/16" X 11 7/8"
D9	8 11/16" X 11"
D10	9 7/8" X 11"

NOTE: INDICATES WAREHOUSE STOCK UNITS. INDICATES WAREHOUSE STOCK UNITS WITH UNDER-SCREEN HARDWARE ONLY. ALL UNITS NOT MARKED REQUIRE FACTORY SHIPMENT. INDICATES VENTS HINGED AT SIDE TO SWING OUT. INDICATES VENTS HINGED AT TOP TO SWING OUT. INDICATES VENTS HINGED AT BOTTOM TO SWING IN.

INSTALLATION DETAILS

Scale of Details 3" = 1'-0"



WOOD SURROUND ~ FRAME CONSTR

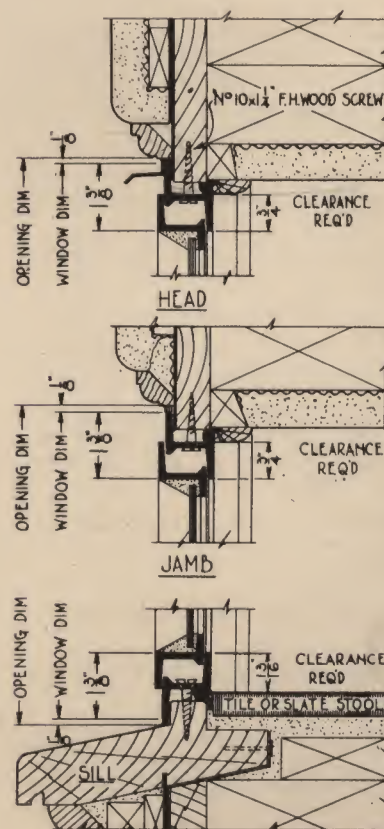
Typical installation conditions are shown on this and the opposite page. They may be varied to conform to construction which deviates from that shown.

Note particularly the points from which Opening Dimensions and Window Dimensions are taken. All dimensions shown in the Types and Sizes drawings (reproduced on Pages 10, 11, 12 and 13) are WINDOW DIMENSIONS.

Also important are the dimensions showing CLEARANCE REQUIRED. These are necessary for the proper installation of screens or storm sash and must be maintained.

Wood Surrounds (detail at lower left, this page) are clear heart Redwood, milled to shape shown in the detail. Corners are mitre or cope lapped. Wood surrounds are attached to casements at the factory or warehouse.

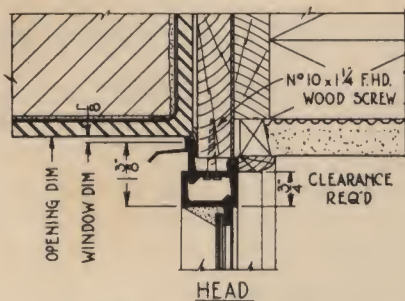
Brick Veneer (details shown on opposite page) may use direct attachment to a rough wood buck or head and jamb fins may be used. In the latter case, the fins must be specified at the time the casements are ordered and will be supplied at a slight extra charge.



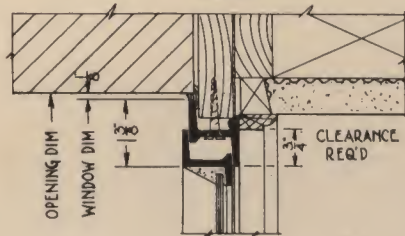
STUCCO & FRAME

INSTALLATION DETAILS

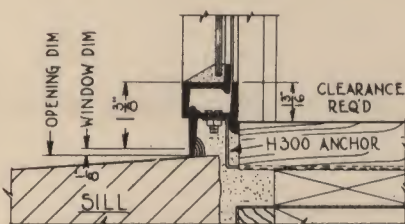
Scale of Details 3" = 1'-0"



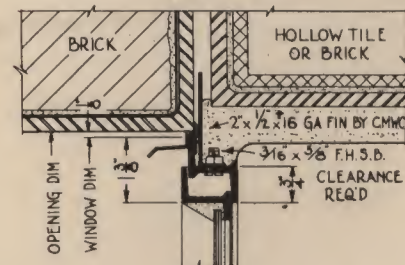
HEAD



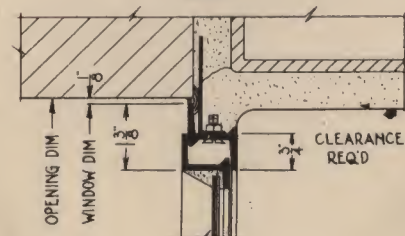
JAMB



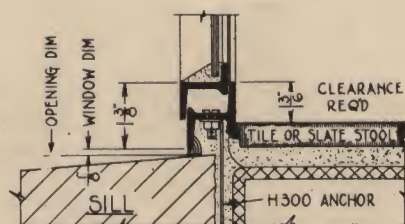
BRICK VENEER



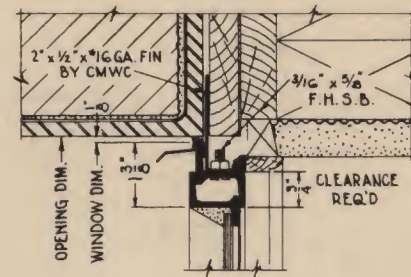
HEAD



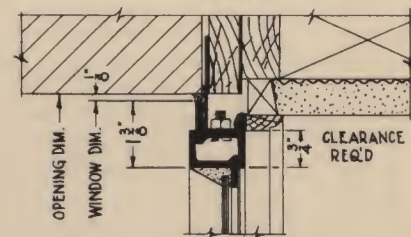
JAMB



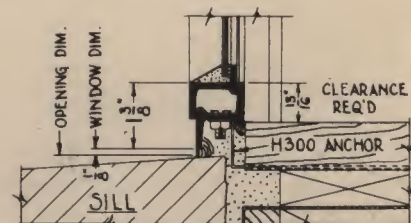
SOLID MASONRY



HEAD

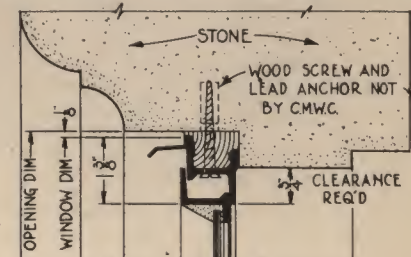


JAMB

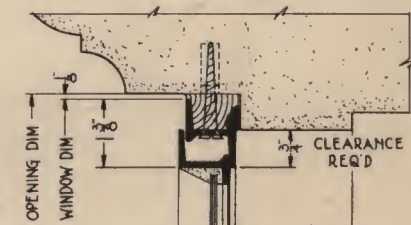


BRICK VENEER

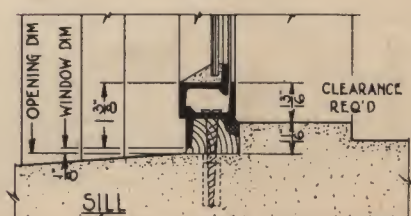
ALTERNATE DETAIL WITH HEAD & JAMB FIN



HEAD



JAMB



STONE

CONDENSED SPECIFICATION

SPECIFY

Residence Casement Windows as manufactured by Campbell Metal Window Corporation, Baltimore, Maryland.

MATERIAL

Members shall be solid section, hot rolled, new billet steel shapes, not less than 1/8" in scheduled thickness. They shall be especially designed with wide baffle legs and heavy fillets. Drip members shall be formed of No. 20 gauge steel, electro-galvanized. Frame members shall be symmetrical Zee members not less than 1" deep. Stiles shall be especially designed members for use adjacent to vents. Vent members shall be unsymmetrical Zee members not less than 1" deep. Muntins shall be especially designed Tee members not less than 3/4" deep nor more than 5/8" across the face. Mullions and Transom Bars between adjacent units set in same opening shall be hot rolled. Transom Bars shall include an integrally rolled drip member.

CONSTRUCTION

The corners of Frames and Vents shall be accurately mitred or coped, and welded, with the exposed surfaces ground smooth. The Meeting Rails or Stiles shall be tenoned, mortised and riveted to frame members. Frame and Vent Assemblies shall be true and square. Continuous two point, flat contact weathering not less than 1/4" wide shall be provided between vents and frames.

Muntins shall be continuous between frame members and between vent members. Muntin intersections shall be mechanically interlocked and provide a flush surface. Muntins shall be tenoned, mortised and riveted to frames or vents. Horizontal and vertical muntins shall be the same depth.

The windows shall be designed for Glazing from the exterior with spring wire glazing clips (not less than two clips per light) and putty.

FINS

Fins of No. 16 gauge steel shall be applied to the head and jambs of all windows not set in wood, stone or metal subframes.

HARDWARE AND INSECT SCREENS

All Hardware shall be supplied in the manufacturer's standard pattern of solid non-ferrous material coated with a metallic lacquer finish of statuary bronze.

Insect screens shall be supplied by the window manufacturer in one of the three types specified below as indicated in drawings. Each vent shall be equipped with a separate screen.

HARDWARE AND INSECT SCREENS

(Concluded)

1. Fixed Screens shall be firmly attached in accordance with manufacturer's standard so as to permit easy removal. Vents of windows so screened shall be hung on non-friction extension hinges with bronze bushed pins. They shall be operated by a worm and gear underscreen operator that will permit opening and closing of vents without removing the screen. Fasteners shall be of the through-section type requiring no holes or grommets in screens.

2. Hinged Screens shall be hinged to swing in and secured by a keeper on side opposite hinges.

Vents of windows so screened shall be hung on friction type extension hinges with bronze bushed pins. One bronze fastener with combination strike and screen keeper shall be provided for each vent. Projection of fastener shall not be more than 3/4" to permit screen to close when vent is closed and locked.

3. Wicket Screens shall be firmly attached in accordance with manufacturer's standard so as to permit easy removal. Screens shall be equipped with a horizontally sliding wicket of sufficient size to permit easy access to fasteners.

Vents of windows so screened shall be hung on friction type hinges with bronze bushed pins. One bronze vent fastener and strike shall be provided for each vent. Projection of fastener shall not be more than 3/4"

All screen frames shall be formed of cold rolled steel not less than .037" thick. Screen cloth shall be of .0113" diameter, antique bronze wire woven to 16 mesh and shall be secured to frames by 1/4" diameter removable splines.

FINISH

(Note. Insert rustproofing specification at this point. This may be for Bonderizing, Parkerizing, Electro-Galvanizing or BONDERIZING ON ELECTRO-GALVANIZING FOR MAXIMUM PROTECTION. See detailed specifications for these processes in Form No. 305 which will be supplied on request.)

Paint shall be of special formula for dipping to provide rust inhibitive priming. Paint shall be baked on for one-half hour at a temperature of 300° F. or an equivalent bake.

The cleaning, processing, painting and baking procedure shall be carried out in the plant of the window manufacturer with a minimum time interval between operations.

MASTIC

The window manufacturer shall supply one pound of mastic for each 10 lineal feet of window unit perimeter.

TABLES OF AREAS

Opening Areas, Glass Areas, Ventilation Areas

The following tabulation gives the essential information concerning areas of all stock and standard types and sizes of Residence Casements.

The first column (Opening Area) gives the number of square feet in the correct masonry opening to receive the type of casement shown. The second column gives the clear glass area of the casement. The third column gives the number of square feet of net ventilation area.

All figures are in SQUARE FEET

Type	Opening Area	Glass Area	Ventilation Area
CH-1	.85	.61	Fixed
11	1.29	.81	Fixed
12	2.67	1.82	Fixed
13	3.59	2.69	Fixed
14	4.97	3.56	Fixed
14 T	4.97	3.51	Fixed
15	6.15	4.46	Fixed
15 T	6.15	4.37	Fixed
16	7.06	5.15	Fixed
16 T	7.06	5.05	Fixed
1212	2.67	1.56	1.77
1312	3.59	2.40	1.77
1313	3.59	2.41	2.66
1413	4.97	3.18	2.66
1414	4.97	3.13	3.52
1514	6.15	3.96	3.52
1614	7.06	4.64	3.52
CH 2	1.56	1.16	Fixed
21	1.84	1.39	Fixed
22	3.75	2.59	Fixed
23	5.12	3.88	Fixed
24	7.08	5.28	Fixed
24 T	7.08	5.26	Fixed
25	8.78	6.66	Fixed
25 T	8.78	6.66	Fixed
26	10.08	7.60	Fixed
26 T	10.08	7.58	Fixed
2214	3.75	2.43	2.85
2314	5.12	3.73	2.85
2316	5.12	3.68	4.27
2416	7.08	4.98	4.27
2418	7.08	4.83	5.70
2518	8.78	6.13	5.70
2618	10.08	7.15	5.70
2222	4.93	3.12	3.54
2323	5.12	4.82	5.32
2424	7.08	6.26	7.04
3212 VC	5.97	4.32	1.77
3312 VC	8.16	6.30	1.77
3313 VC	8.16	6.49	2.66
3413 VC	11.32	8.47	2.66
3414 VC	11.32	8.53	3.52
3514 VC	13.95	10.51	3.52
3614 VC	16.05	12.40	3.52
CH 4	4.98	4.00	Fixed
41	3.55	2.52	Fixed
42	7.23	5.64	Fixed
43	9.86	8.34	Fixed
44	13.65	11.05	Fixed
45	16.91	13.73	Fixed
46	19.45	15.54	Fixed
4214 VC	7.23	5.29	2.85
4314 VC	9.86	7.97	2.85
4316 VC	9.86	7.90	4.27
4416 VC	13.65	10.58	4.27
4418 VC	13.65	10.41	5.70
4518 VC	16.91	13.09	5.70
4618 VC	19.45	14.90	5.70
4224	7.23	4.86	5.70
4324	9.86	7.54	5.70
4326	9.86	7.36	8.54
4426	13.65	10.04	8.54
4428	13.65	9.66	11.40
4528	16.91	12.34	11.40
4628	19.45	14.15	11.40
CH 6	10.22	8.25	Fixed
61	5.26	3.71	Fixed
62	10.70	8.35	Fixed
63	14.55	12.30	Fixed
64	20.20	16.28	Fixed
65	25.00	20.29	Fixed
66	28.62	23.12	Fixed
6214 VC	10.70	7.83	2.85

Type	Opening Area	Glass Area	Ventilation Area
6314 VC	14.55	11.84	2.85
6316 VC	14.55	11.78	4.27
6416 VC	20.20	15.79	4.27
6418 VC	20.20	15.61	5.70
6518 VC	25.00	19.62	5.70
6618 VC	28.62	22.45	5.70
6224	10.70	7.44	5.70
6324	14.55	11.45	5.70
6326	14.55	11.24	8.54
6426	20.20	15.25	8.54
6428	20.20	14.88	11.40
6528	25.00	18.89	11.40
6628	28.62	21.72	11.40
6224 VC	10.70	7.60	5.70
6324 VC	14.55	11.61	5.70
6326 VC	14.55	11.42	8.54
6426 VC	20.20	15.43	8.54
6428 VC	20.20	15.04	11.40
6528 VC	25.00	19.05	11.40
6628 VC	28.62	21.88	11.40
CH 8	17.00	14.20	Fixed
81	6.94	4.96	Fixed
82	14.12	11.15	Fixed
83	19.25	16.44	Fixed
84	26.68	21.76	Fixed
85	32.90	27.10	Fixed
86	37.78	30.89	Fixed
8224 VC	14.12	10.38	5.70
8324 VC	19.25	15.72	5.70
8326 VC	19.25	15.52	8.54
8426 VC	26.68	20.86	8.54
8428 VC	26.68	20.46	11.40
8528 VC	32.90	25.80	11.40
8628 VC	37.78	29.99	11.40

"Moderne" Type	Opening Area	Glass Area	Ventilating Area
HM 2214 R/L	3.75	2.55	2.85
HM 2314 R/L	5.12	3.94	2.85
HM 2416 R/L	7.08	5.26	4.27
HM 2518 R/L	8.78	6.48	5.70
HM 4214 R/L	7.23	5.37	2.85
HM 4314 R/L	9.86	8.24	2.85
HM 4416 R/L	13.65	10.97	4.27
HM 4518 R/L	16.91	12.47	5.70
HM 4224	7.23	5.14	5.70
HM 4324	9.86	7.96	5.70
HM 4426	13.65	10.60	8.54
HM 4528	16.91	13.04	11.40
HM 6224	10.70	8.02	5.70
HM 6324	14.55	12.24	5.70
HM 6426	20.20	16.27	8.54
HM 6528	25.00	20.10	11.40
HM 6214 VC R/L	10.70	8.25	2.85
HM 6314 VC R/L	14.55	12.47	2.85
HM 6416 VC R/L	20.20	16.63	4.27
HM 6518 VC R/L	25.00	20.67	5.70

Tilt-In Type

	Opening Area	Glass Area	Ventilation Area
21S2	1.69	1.00	1.17
41S2	3.24	2.03	1.20
41S4	3.24	2.06	2.51
61S4	4.79	3.18	2.51
81S4	6.34	4.28	2.51

* Note—Tilt-In Type are normally used with side hinged casements as sill ventilators. Above areas are net sash areas, in which the height used is $\frac{1}{4}$ " less than correct dimension, if units were to be set in individual openings.

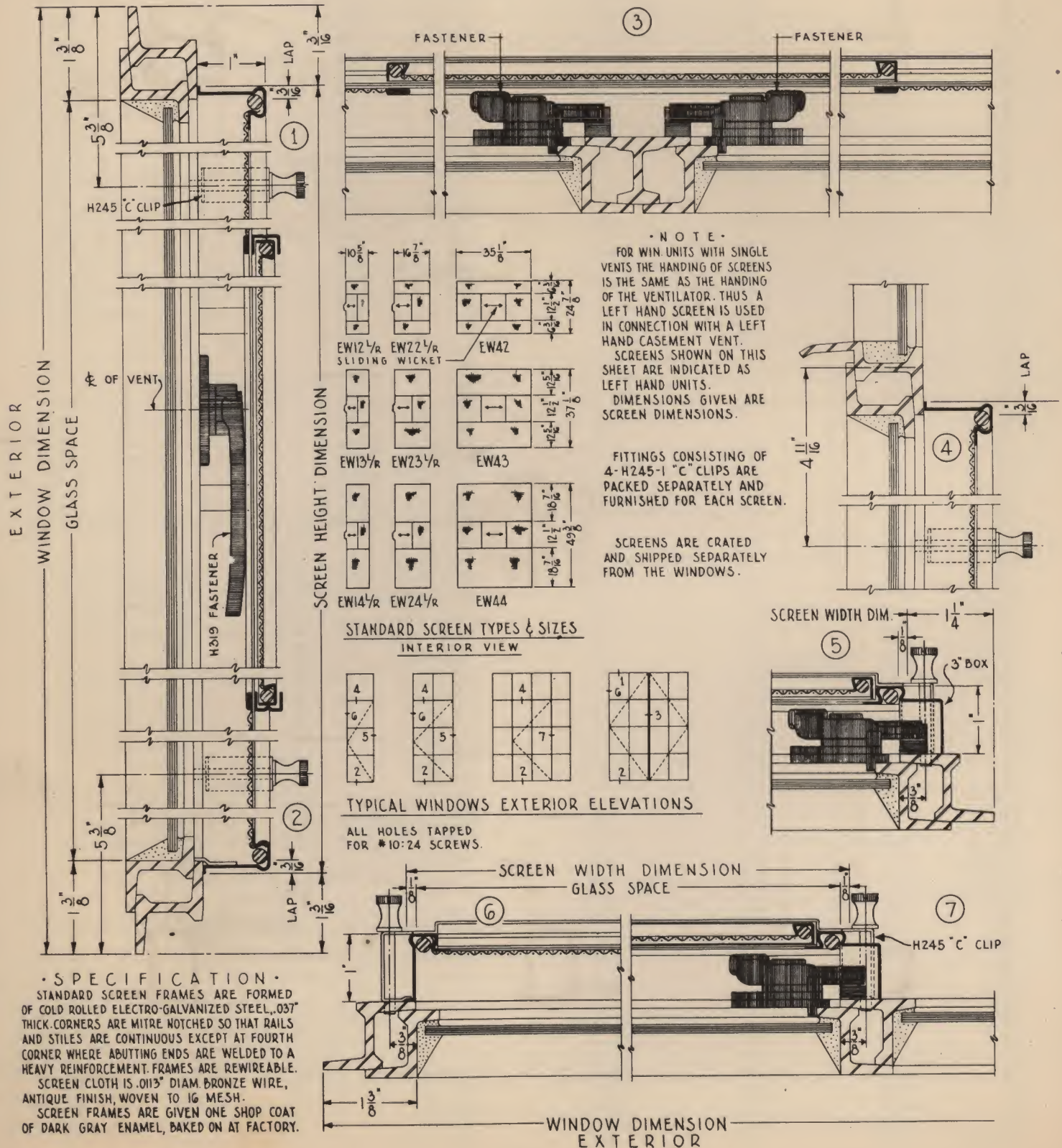
Transom Type	Opening Area	Glass Area	Ventilating Area
2214 TH	3.75	2.43	2.85
4214 THVC	7.23	5.29	2.85
4224 TH	7.23	4.86	5.70
6214 TH VC	10.70	7.83	2.85

WICKET OR SLIDING PANEL TYPE SCREEN

Scale of Details— $\frac{1}{2}$ Full Size

This type of screen provides for permanent attachment to the window, with access to the vent fastener provided through the horizontally sliding panel.

INTERIOR

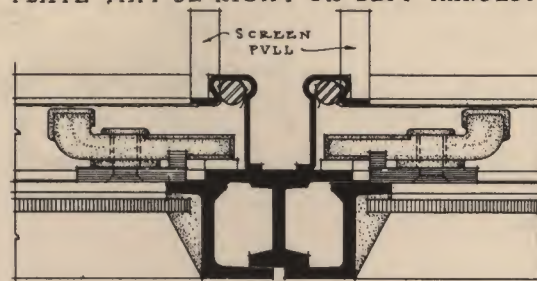
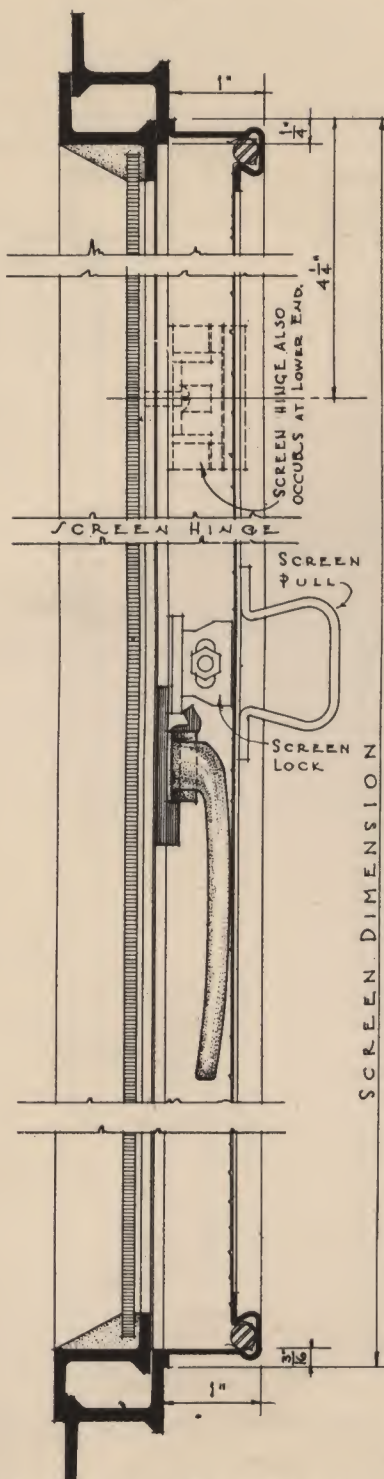


SCREEN DETAILS HINGED TYPE SCREEN

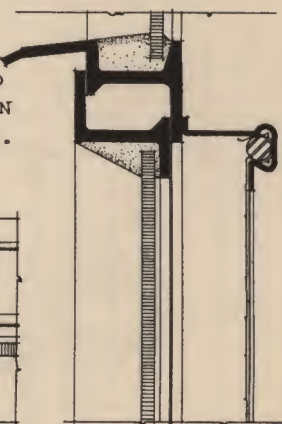
Scale of Details— $\frac{1}{2}$ Full Size

• NOTES •

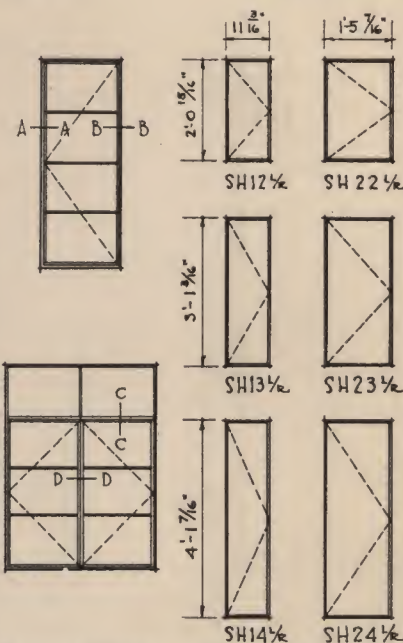
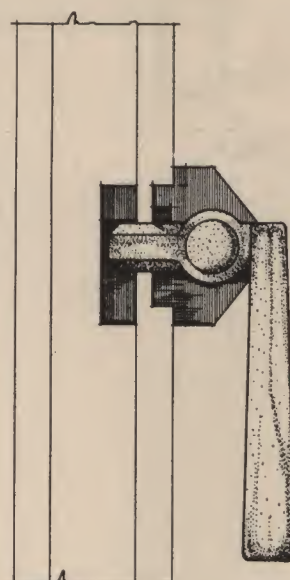
THE HANDING OF HINGED SCREENS IS SAME AS THE HANDING OF THE VENTILATOR; THUS, A LEFT HAND SCREEN IS USED IN CONNECTION WITH A LEFT HAND CASEMENT VENT. SCREENS INDICATED ON PLATE MAY BE RIGHT OR LEFT HANDED.



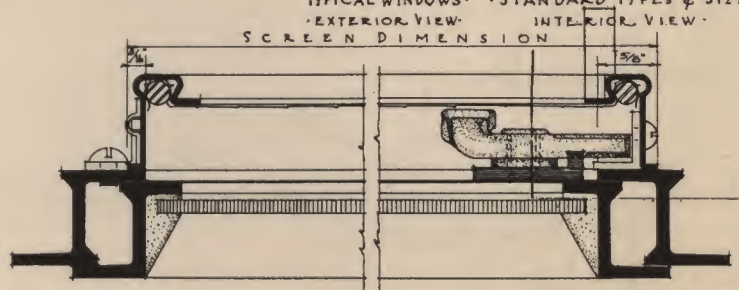
• SECTION D-D •



• SECTION C-C •



TYPICAL WINDOWS • STANDARD TYPES & SIZES •
• EXTERIOR VIEW • INTERIOR VIEW •
SCREEN DIMENSION



• SECTION A-A • • SECTION B-B •

• VERTICAL SECTION •

CAMPBELL RESIDENCE CASEMENTS

HOUSING TYPE, WITH CASING

Campbell Housing Type Casements have been supplied on a large number of low cost housing projects, of which the following are typical:

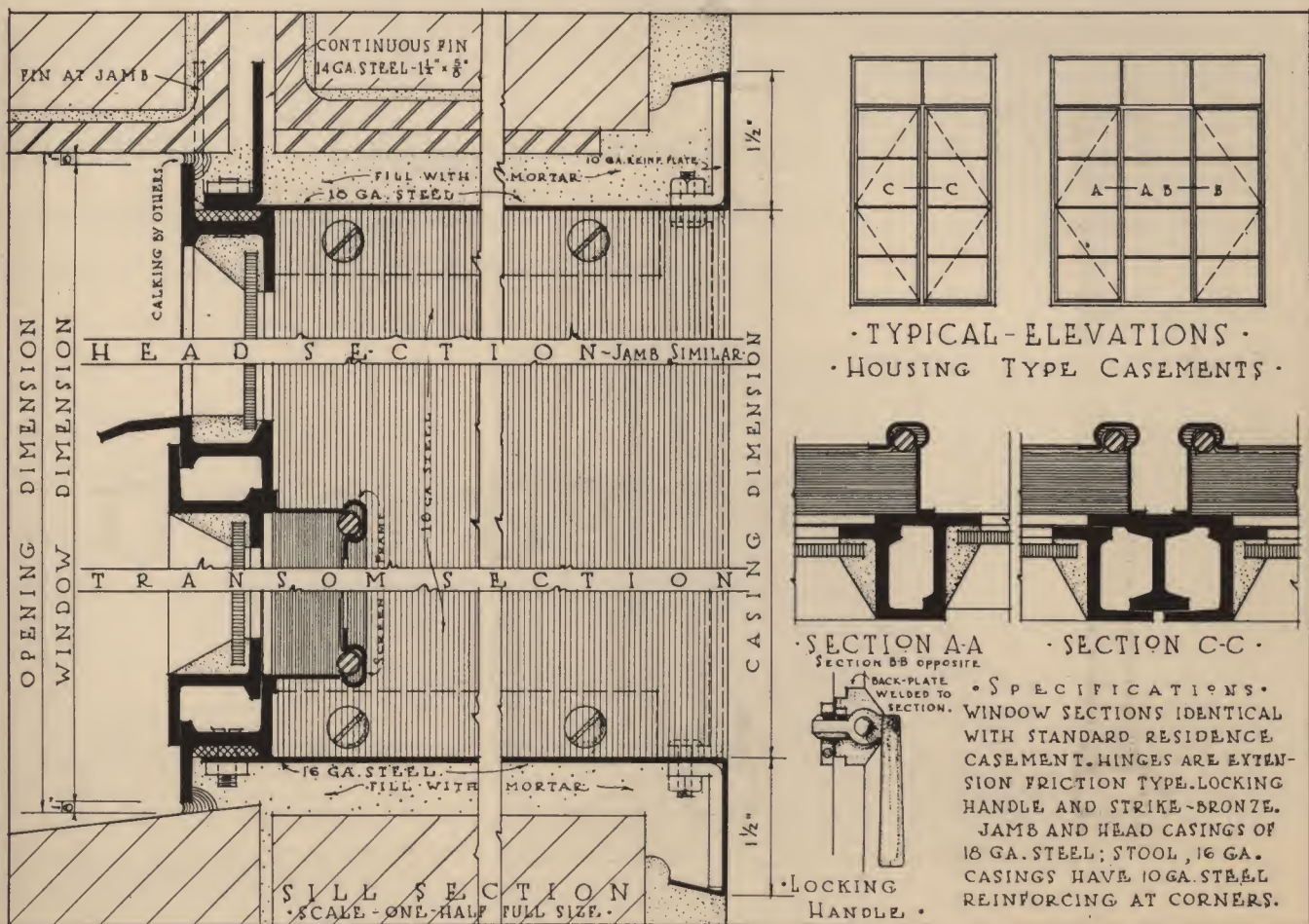
Atlanta, Ga., University Homes
 Birmingham, Ala., Smithfield Court
 Berwyn, Md., Greenbelt Resettlement
 Charleston, S. C., Meeting St. Manor, Cooper River Court
 Chicago, Ill., Jane Addams I
 Chicago, Ill., Jane Addams II
 Chicago, Ill., Julia C. Lathrop Homes
 Columbia, S. C., University Terrace

Dallas, Texas, Lucas Drive
 Detroit, Mich., Parkside
 Jacksonville, Fla., Durkeeville
 Louisville, Ky., LaSalle Place
 Memphis, Tenn., Lauderdale Courts
 Minneapolis, Minn., Summer Field
 New York, N. Y., Harlem River Houses
 Toledo, Ohio, Brand Whitlock Homes
 Washington, D. C., Langston Terrace

Each unit consists of a VMO or "Moderne" Casement, a standard type of casing, head and jamb fins, standard bronze, close-up fastener, friction hinges and hinged screen.

This is shipped as one complete assembly (except screens which are shipped separately) ready to set in the job.

Scale of Details—1/2 Full Size

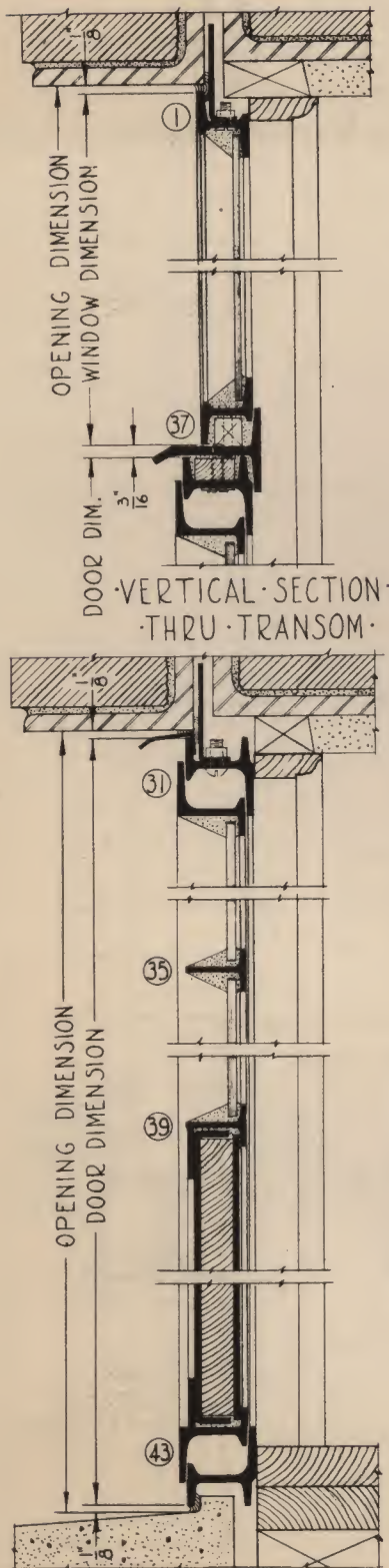


DETAILS

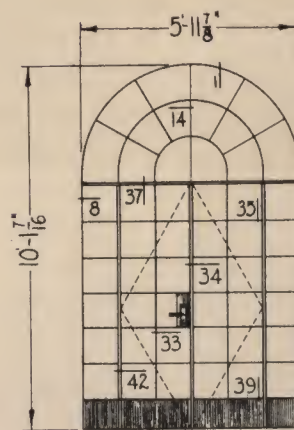
CASEMENT DOOR, SIDELIGHTS, TRANSOMS

Scale of Details 3" = 1'-0"

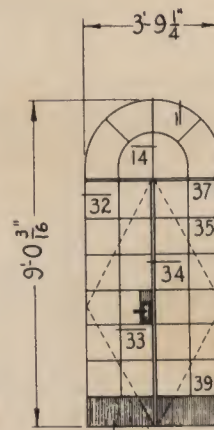
(See Illustration on Opposite Page)



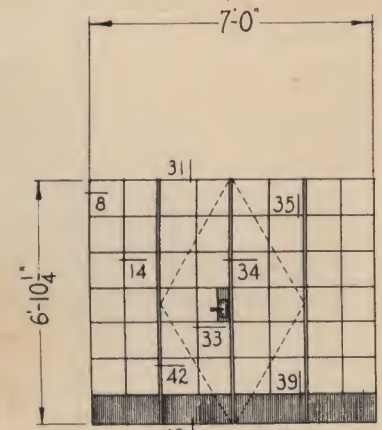
VERTICAL SECTION
THRU DOOR



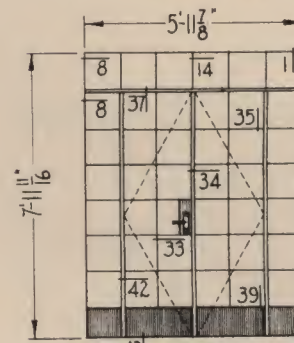
43 CH-6D
17D STANDARD DOOR 17D



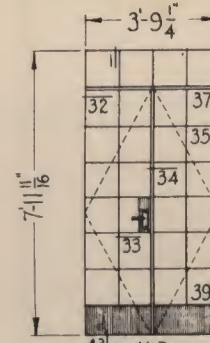
43 CH-4D
STANDARD DOOR



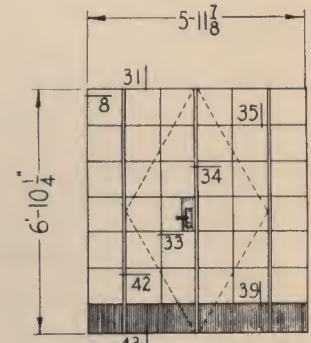
27D STANDARD DOOR 27D



43 61D
17D STANDARD DOOR 17D

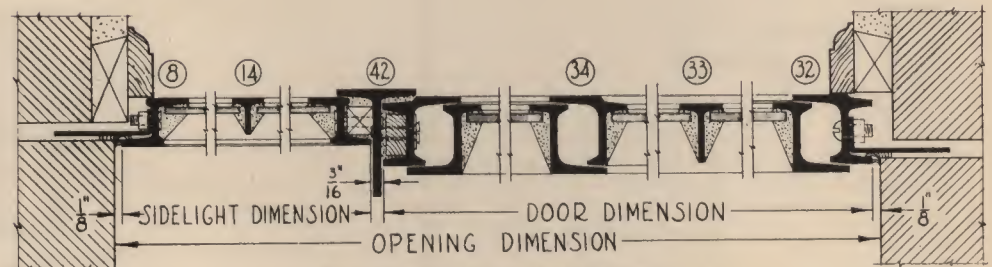


43 41D
STANDARD DOOR

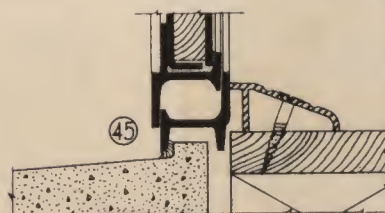


17D STANDARD DOOR 17D

TYPICAL COMBINATIONS OF STANDARD DOOR WITH SIDELIGHTS & TRANSOMS



PLAN OF SIDELIGHT AND DOOR



DETAIL AT SILL SHOWING BRONZE THRESHOLD
FURNISHED AT EXTRA COST

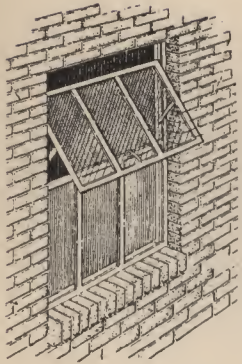
DOOR HARDWARE

DOOR LEAVES ARE HUNG ON 3 (PER LEAF)
STEEL HALF SURFACE HINGES WITH BRONZE PINS
ACTIVE LEAF IS FITTED WITH BRONZE MORTISE
LOCK WITH LEVER HANDLES, AND BRONZE THUMB
TURN ON THE INSIDE.
CYLINDERS CAN BE FURNISHED AT INCREASED
COST.
INACTIVE LEAF EQUIPPED WITH SURFACE TYPE
BRONZE TOP AND BOTTOM BOLT.
ALL BRONZE HARDWARE FINISHED IN U.S. 10.

complete your home with

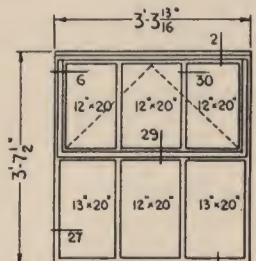
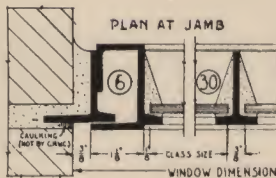
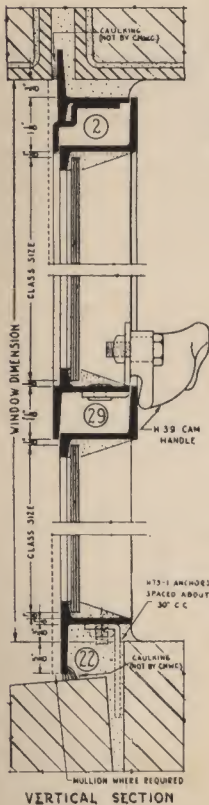
CAMPBELL

BASEMENT & UTILITY WINDOWS

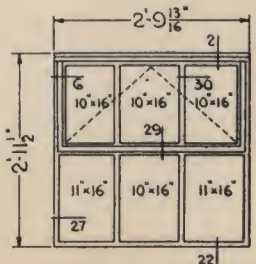


CAMPBELL UTILITY WINDOWS

Adapted to the requirements of garages, basements, area ways and for openings where interior space limitations require ventilation at the top of the window.

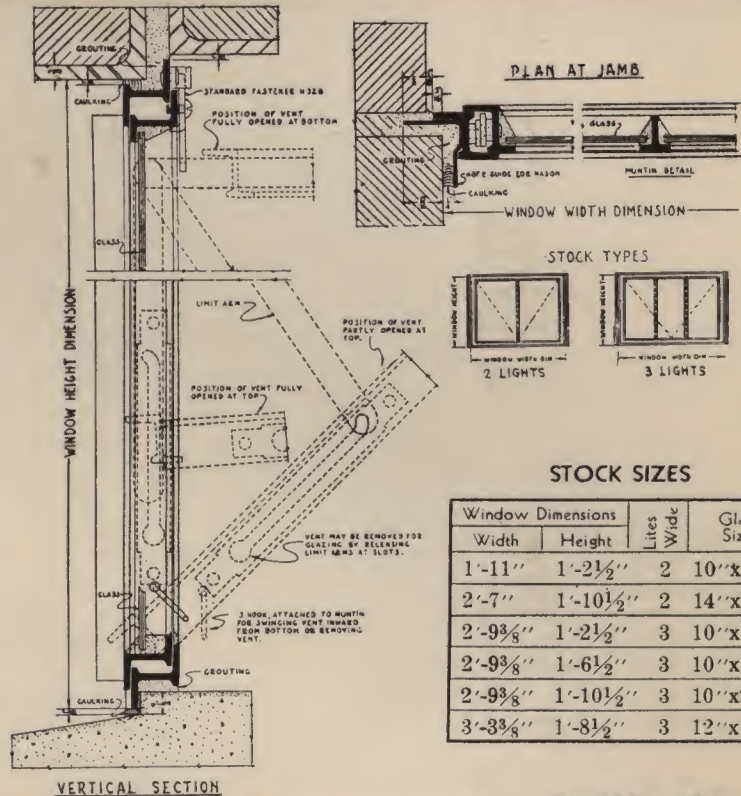


NOMINAL GLASS SIZE 12' x 20'



NOMINAL GLASS SIZE 10' x 16'

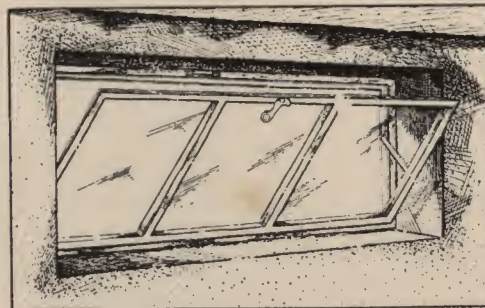
Two sizes are carried in stock, one for nominal 10' x 16' glass, and other for nominal 12' x 20' glass, with the ventilator projected down-and-out. Up-and-in ventilators will be furnished on order for either type.



VERTICAL SECTION

STOCK SIZES

Window Dimensions		Lites	Wide	Glass Size
Width	Height			
1'-11"	1'-2 1/2"	2	10"	12"
2'-7"	1'-10 1/2"	2	14"	20"
2'-9 3/8"	1'-2 1/2"	3	10"	12"
2'-9 3/8"	1'-6 1/2"	3	10"	16"
2'-9 3/8"	1'-10 1/2"	3	10"	20"
3'-3 3/8"	1'-8 1/2"	3	12"	18"



BASEMENT WINDOWS

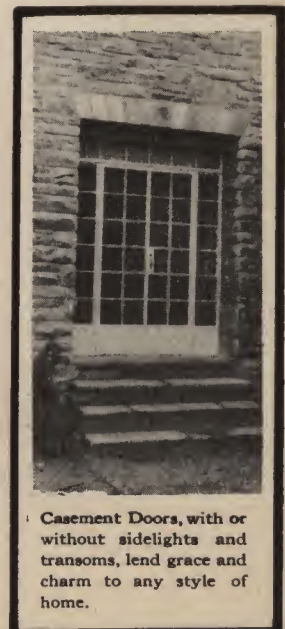
Two methods of ventilator operation are combined in the Campbell Basement Window.

The ventilator is hung on two arms and is secured at the top by a cam latch and keeper. It can be opened in at the top to approximately 45 degrees, or reversed, swung upward and fastened in the open position by an S-hook attached to the muntin.

Two types in six sizes available finished in one coat of gray paint.

Screens are available for all types and are easily attached to the exterior of the windows.

CAMPBELL METAL CASEMENT DOORS



Casement Doors, with or without sidelights and transoms, lend grace and charm to any style of home.

CAMPBELL

MAKES A PRODUCT FOR EVERY WINDOW NEED



CUSTOM CASEMENTS

Finer residences and monumental buildings deserve finer casements, custom designed and custom built. Sturdy rolled sections permit a wide variation of sizes within generous limits. Flexibility of design adapts them to most architectural lines. Many types of ventilator operation are controlled by graceful, yet rugged hardware.



ARCHITECTURAL PROJECTED WINDOWS

These inexpensive, yet high quality windows, easily screened and with excellent ventilation control, offer a high ratio of glass area to opening size. They are widely used in school construction and in buildings where the "shower-proof ventilation" of projected ventilators is essential, yet architectural lines must be maintained.

CONTINUOUS WINDOWS AND OPERATORS

Roof lighting for industrial buildings is amply provided for by Continuous Windows, whether set in sawtooth or monitor construction. When combined with one of the many types of Campbell Operators, manually or electrically powered, excellent ventilation control may be secured in roofs or sidewalls.



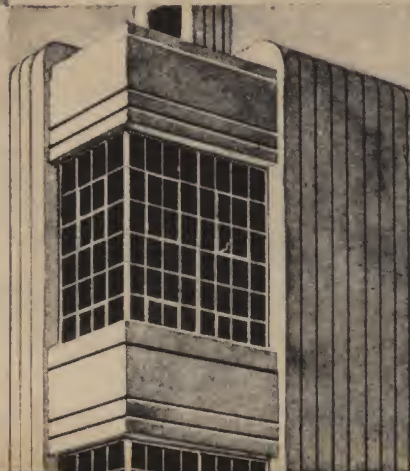
PIVOTED WINDOWS

These windows are virtually a standard specification for industrial buildings because they combine large light areas and good ventilation control in long lasting, low cost units. Campbell Pivoted Windows are designed to give greater strength and thus offer "more window per dollar" to builders of industrial plants.



DETENTION WINDOWS

A wide range of five types includes the Super Bar and Intermediate Guard Windows for penal institutions; the Spring Balanced Detention Window for institutions housing mental patients (they are used in most U. S. Veterans Hospitals); and Protection and Security Windows with guard features for commercial and other buildings.



COMMERCIAL PROJECTED WINDOWS

Made of industrial sections, which give them extra strength, these windows have projected ventilators which are easy to screen and are particularly suited to the office portions of industrial buildings. A low-cost window with superior ventilating qualities, the Commercial Projected Window is an architectural asset as well.

CAMPBELL METAL WINDOW CORP.

DIVISION OF AMERICAN RADIATOR & STANDARD SANITARY CORPORATION

Main Office: Bush & Hamburg Streets, Baltimore, Maryland

District Sales Offices: New York, Boston, Philadelphia, Chicago

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